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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/985,380 12/04/97 COOPER

E TI-23516

023494 TM02/0807
TEXAS INSTRUMENTS INCORPORATED
P O BOX 655474, M/S 3999
DALLAS TX 75265

EXAMINER

SNIEZEK, A

ART UNIT	PAPER NUMBER
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2651

DATE MAILED:

08/07/01

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

8K

Office Action Summary

Application No.

08/985,380

Applicant

Cooper

Examiner

Andrew Sniezek

Art Unit

2651



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE three MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Jun 18, 2001
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above, claim(s) 1-10 and 19-21 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 11-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).
- a) ☐ All b) ☐ Some* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- *See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

- 15) ☐ Notice of References Cited (PTO-892)
- 16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 14
- 18) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 19) ☐ Notice of Informal Patent Application (PTO-152)
- 20) ☐ Other: _____

1. The following action is taken in view of the amendment filed 5/25/01.
2. The information disclosure statement filed 6/18/01 has been considered.
3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-13 and 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. in view of Moon.

Note for example figure 2 of Suzuki et al. along with corresponding disclosure which teaches the limitations including ADC, DAC, a digital signal processor and power amplifier which operate substantially as set forth in claims 11-13 and 16-18. Independent claim 11 further sets forth that the digital processor operates "based on an expected response of the actuator to a feed forward control signal". Although such a feature is not specifically taught by Suzuki et al., such a feature is notoriously well known as seen from Moon, (columns 14-15 and figures 6A, 6B) to achieve a desired performance level of the drive. It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate the use of disk drive characteristics as taught by Moon in the processing operation as taught by Suzuki et al. to achieve a desired performance level of a drive.

5. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. and Moon as applied to claims 11-13 and 16-18 above, and further in view of official notice.

Suzuki et al. and Moon as applied teach the claimed invention as discussed above. Claims 14 and 15 further set forth that the digital processor and the digital-to-analog convertor are placed on a single semiconductor material, i.e. silicon. It is notoriously well known in the art to integrate plural circuits into a single semiconductor chip (silicon based) to reduce manufacturing cost and to increase reliability. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the corresponding circuit arrangement in Suzuki et al. and Morris as applied such that they are incorporated on the same silicon chip to reduce manufacturing cost and to increase reliability.

6. Applicant's arguments filed 5/25/01 have been fully considered but they are not persuasive. Applicant argues that the claimed invention requires that the control technique is performed after "an initialization of said hard disk drive", whereas Moon teaches a value Cffwd that is determined by manual characterization of the disk drive or by an automated self-characterization during disk drive initialization. Although this value may be determined at such times pointed out by applicant it is clear from the teaching of Moon (figures 6a and 6b, along with corresponding disclosure) that the control technique using this value Cffwd is performed during use, i.e., after initialization of the disk drive.

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

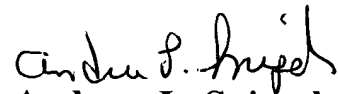
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew L. Snizek whose telephone and VoiceMail number is (703) 308-1602. If a plurality of attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, D. Hudspeth, can be reached on (703) 308-4825

The appropriate fax phone number for the organization (Group 2650) where this application or proceeding is assigned is (703) 308-9051.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.


Andrew L. Snizek
Primary Examiner
Art Unit 2651

A.L.S.
August 6, 2001